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# The Kentucky Warbler

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## THE KENTUCKY WARBLER

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## OUR COVER

We express our appreciation to Ray Harm, our staff artist, for the Bald Eagle on the front cover.

## SUMMER OBSERVATIONS OF BIRDS ON RECLAIMED SURFACE COAL MINES IN BREATHITT, BELL, PIKE, AND HARLAN COUNTIES

PIERRE N. ALLAIRE

In recent years a number of studies have been conducted on birds using reclaimed surface coal mines as breeding areas (Peake, 1971; Yahner et. al., 1975; Whitmore and Hall, 1978; Allaire, 1978; and Allaire, 1979a). Species that were once thought to be rare and unusual for the mountains of Appalachia are now considered regular and common. Grassland birds in eastern Kentucky such as Grasshopper Sparrow (*Ammodramus sava-narum*), Eastern Meadowlark (*Sturnella magna*), Horned Lark (*Eremo-phila alpestris*), and occasionally Killdeer (*Charadrius vociferus*), have been utilizing the grasslands created by contemporary reclamation practices, i.e., seeding of grasses and leguminous plants to produce a pastureland type of habitat as an erosion control measure.

During June and July of 1980 site visits were made to three different locations in eastern Kentucky for the purpose of finding certain grassland birds that were hypothesized to be breeding in these locales. The data from these areas, plus information gathered from Breathitt County since 1974, have provided a regional appraisal of bird usage of reclaimed surface mined land in major mining areas of eastern Kentucky.

Two questions were asked prior to initiating field work. First, will the four grassland birds already mentioned, and known to occur in Breathitt County, be found in Pike, Harlan, and Bell counties as breeding birds? Second, are there particular species, such as Bobolink (*Dolichonyx oryzi-vorus*), Savannah Sparrow (*Passerculus sandwichensis*), Vesper Sparrow (*Pooecetes gramineus*), and Dickcissel (*Spiza americana*), which to date, have not been recorded at all in eastern Kentucky as nesting species?

Before summarizing the data gathered from Bell, Pike, and Harlan counties, I believe that a synopsis of birds found in Breathitt County would be appropriate. The initial observations made in Breathitt County helped to formulate the hypotheses that a variety of grassland birds have established and others are likely to establish themselves as permanent breeding species in this region of Kentucky.

### Breathitt County

In 1974 studies began which provided data pertaining to species composition and densities of grassland birds breeding on pasture type habitat generated from the reclamation of mountain tops that had been mined for coal (Allaire, 1979a). This is a typical area mined and reclaimed with a mixture of grasses and legumes. There are temporary ponds and a permanent impoundment present. As a rule one could expect to find three pairs of Grasshopper Sparrows nesting on this 16 ha (40 ac) tract, two pairs of Eastern Meadowlarks, and one pair of Horned Larks. A prerequisite of the Horned Lark is that there be areas of sparse vegetation (e.g., poorly reclaimed sites where vegetation is not established and road lanes that traverse these mines). Killdeer were seen on two occasions (1976 and 1978) in the study area. Their wing feigning behavior and loud scolding suggested that the nest or young was close by. Unfortunately, neither was found and it can only be presumed that nesting had occurred.

None of the four hypothetical newcomers to the area have ever been observed as nesting species. Bobolinks and Vesper and Savannah Sparrows do occur as regular migrants in the spring; Dickcissels have never been recorded. Any one or all of these species nest in central Kentucky, southern Ohio, West Virginia, Virginia, and eastern Tennessee. Within the next decade at least one of these species should expand its range into the grasslands created by mining.

### **Bell County**

Bell County is located in the southeastern portion of the state where Kentucky, Tennessee, and Virginia meet at the Cumberland Gap National Monument. The major surface mining operation in this country is a 4 km (2 mi) long, mountain-top removal area, running along a ridge of the Cumberland Mountain chain approximately 8 km (5 mi) east of Cumberland Gap. Topographically this is different from Breathitt County in which the ridges are shorter and highly interconnected. The center of the ridge contains the main road. One can travel from one end of the operation to the other in an almost straight line. Reclamation plants are similar to those used in Breathitt County. Clovers are in abundance throughout, in part, because of the extensive honey production program sponsored by Mountain Drive Coal Company.

A three-day site visit (June 11-13, 1980) resulted in a list of grassland species nesting in the area. No quantitative data are available at this time.

The main core of grassland birds (Grasshopper Sparrow, Eastern Meadowlark, and Horned Lark) were observed. Killdeer were not seen. Other species which utilized the grasslands for feeding only were Red-winged Blackbirds (they nest in the cattails of the ponds), Rough-winged and Barn swallows, and Eastern Bluebirds. These species occur in Breathitt County as well. The members of the hypothetical list were nowhere to be found. Close to 810 ha (2000 ac) were searched on foot and by car with no results. Nesting records of Savannah Sparrows in nearby Tennessee (Hawkins County) would make this species the most likely candidate to be in the area. It occurs as a common migrant and perhaps is breeding nearby locally. Much of the habitat is short, grass/legume stands ideal for this species of sparrow.

### **Pike County**

To the east of Breathitt County lies the more rugged terrain of Pike County. Although predominately an area of underground mines, there are numerous surface mine operations.

Two days (June 23 and 24, 1980) were spent in areas adjacent to the Pikeville College farm that had been mined and reclaimed. Because of the steeper terrain, mountain-top grasslands are not as large as the other two areas already described. Contour mining, along a narrow portion of the coal seam that leaves a highwall, bench, and outslope, is found extensively throughout this region. The benches usually contain a road with the remaining disturbed area as a grassland. Only at the points where the opposite sides of the contour meet is there any expanse (10 ha = 25 ac or greater) worthy of supporting the core of grassland birds or list of hypothetical species previously mentioned (see Allaire, 1979a and Whitmore, 1980 for a more detailed explanation of size and shape of grassland islands

needed to attract grassland birds). Only two core species, Grasshopper Sparrow and Horned Lark, were observed during the two-day visit. They were seen only on the mountain-top removal sites and never along the highwalls. None of the four hypothetical species was recorded. Moreover, birds known to nest on highwalls in Breathitt County, such as Eastern Bluebird (*Sialia sialis*), Rough-winged Swallow (*Stelgidopteryx ruficollis*), Barn Swallow (*Hirundo rustica*), and Eastern Phoebe (*Sayornis phoebe*), were also present.

### Harlan County

Located east of Bell County in southeastern Kentucky, Harlan County is predominately an underground mining area, similar in many respects to Pike County. No visits were made to surface mining operations. However, a visit to an 18 ha (45 ac) disturbed (and partially reclaimed) underground mine entrance site did provide an unusual site record.

On 29 July 1980 a few hours were devoted searching for birds in the Benham area of Big Black Mountain. A small, shallow impoundment about .3 ha (.7 ac) in size, with a power line suspended over one portion of the pond, gave this pond a new niche dimension. The power line that crossed the pond was being used by a family of Rough-winged Swallows. The adults foraged over the water and nearby field returning to the line to feed the young fledglings. Recently (Allaire, 1979), it was suggested that cables stretched out over these impoundments might serve as useful perches for swallows, martins, kingfishers and others that normally do not have places to light over water. This observation confirmed what had previously been recommended as a useful wildlife management technique that could be easily implemented by a coal operator.

Later, as I stood at one end and scanned the shoreline I observed a Solitary Sandpiper (*Tringa solitaria*). The sighting and date is noteworthy due to the absence of records from this part of the state. The lack of natural shoreline, prior to contemporary mining and reclamation practices of the 1970's, has allowed no stopping or resting places for this group of birds. In recent years the proliferation of mining and subsequent silt control structures have greatly increased shorebird utilization. Observations from Breathitt County (Allaire, 1974) have shown that when this type of aquatic habitat is available, it will be utilized by these birds.

### SUMMARY

The observations made during the recent summer have shown that certain grassland birds are nesting on reclaimed surface coal mines in much of eastern Kentucky (Breathitt, Bell, and Pike counties) where habitat is present. The data do indicate a regional occurrence of Grasshopper Sparrow, Eastern Meadowlark, Horned Lark, and occasionally Killdeer in this part of the state. Prior to this time, field observations have been lacking.

Four species (Bobolink, Savannah and Vesper sparrow, and Dickcissel) were hypothesized as possible breeding birds; however, none were found at any of the study areas. The selection of these birds was based on nearby records from surrounding states. Within the next decade at least one of these species should become a well established breeding bird in eastern Kentucky.

## ACKNOWLEDGEMENTS

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## THE SPRING MIGRATION OF 1981

ANNE L. STAMM

The 1981 spring was not a normal one. March was much warmer and drier than usual. Shorebird habitat in the early part of the season was limited due to drought conditions and perhaps some of the Charadriiformes overflowed the areas. April was unusually warm and the second warmest on record in the Louisville area. Rainfall was heavy and caused flooding conditions in the eastern and western sections of the state. A combination of related weather events produced some early arrivals, some delayed migration in early May, and a few late departure dates.

As a general rule the majority of migrating species just seemed to filter through in small numbers. Good warbler migration did not seem to get under way until mid-May in most areas. Probably the best migration dates occurred on March 31, April 11, May 4, May 15-16 and 21-22.

Encouraging signs were the slight increases in numbers for the Carolina Wren, Eastern Bluebird and Field Sparrow, although they were not up to normal levels. Discouraging, however, was the decline in the Wood Thrush and Summer Tanager.

Observers are asked to give special attention to the following species whose numbers have definitely been reduced: Red-shouldered Hawk, Green Heron, Black-crowned Night Heron, Yellow-crowned Night Heron and the Grasshopper Sparrow. Several other species are commented on in the accounts that follow.

*Loons through Herons* — No flocks of Common Loons were recorded, but singles were observed at Kentucky Lake, May 4 and 5 (JEr); Lexington Reservoir, May 16 (DC); and one lingered on the lake at Bernheim Forest up until June 7 (PB, JB). Little mention was made of Horned Grebe, but 29 were at McAlpine Dam, March 15 (LR). Eight Double-crested Cormorants were first seen at Kentucky Lake, April 16 and smaller numbers remained until one was there on May 21 (JEr); two at Louisville, May 3 (LR) and also on May 26 (AB); and two at Ramseys Creek, Rowan County, May 9 and 15 (FB, AS). Fair numbers of Great Blue Heron were reported: 50-52 at Fish Lake, western Kentucky, April 16 (JEr); "lots" at Ballard Waterfowl Management Area (hereafter BWMA), by (JEr); also reported at Wolper Creek (northern Kentucky), no number indicated, April 18 (EG); and two at Caney Creek, Rowan County, May 9 (FB et al). Green Heron were scarce in many places, especially Louisville; two to three birds reported from western Kentucky to Springfield and six at Caney Creek, Rowan County, May 9 (FB et al). More Little Blue Heron were reported than usual: one at Kentucky Lake, near Hamlin, April 4, established an early state date (JEr); nine at BWMA, April 28 (JEr), but 40+ were seen there, May 11, all of the latter were adults but three, which were pied (JEL, DE, LR). Thirteen Cattle Egrets were seen flying over Kentucky Lake, May 8 (JEr). Great Egrets were scarce; the largest reported group was eight, about 18 miles west of Bowling Green, April 19 (HS); singles were seen at McAlpine Dam, May 20 (LR) and May 27, possibly the same bird (AB); and several sighted at Minor E. Clark Fish Hatchery, April 4 (FB). A single Snowy Egret in breeding plumage was reported at BWMA, May 11 (JEL et al). Black-crowned Night Heron arrived late and were considered very scarce at Danville (FL); one at Kentucky Lake, April 9 (JEr); fair numbers at Falls of the Ohio from April 13 to May 9, with a high of 64 birds on the latter date (LR). Yellow-crowned Night Heron appeared at two locations: Louisville (LR) and Lexington (DC); much of its habitat was destroyed in recent years in the Louisville area.

*Waterfowl* — A Mute Swan appeared on several occasions during May on a small pond in the Danville area (FL). A flock of 75 Canada Geese were apparently migrating north over Kentucky Lake, March 13 (JEr). Good flights in moderate numbers of Mallards, American Widgeon and Ring-necked Ducks were recorded in March in Boone County (LMc). Four male Greater Scaup were observed at McAlpine Dam, March 13 (LR). Two White-winged Scoters were noted on the Ohio River, Louisville, March 1-22 (AB).

*Raptors* — The Turkey Vulture was first recorded in Kenton County on March 2 (EG); other sightings of two to six birds were in Jefferson, Harlan and Rowan Counties, with 10 as the highest count at Lake Cumber-



land, Russell County, April 25 (JB, PB). The presence of a Mississippi Kite at BWMA, April 28 was of special interest (JEr). Single Sharp-shinned Hawks were reported in the following locations: Fort Wright, March 3 (EG); Hamlin, March 20 (JEr); Eubank, March 14-May 30 (several sightings-JEL); Danville, April 11 (FL); Lucas, April 25 (KOS); and Pine Mountain, May 9 (MD). Single Cooper's Hawks were reported from five locations from March 29 to April 25: Hamlin (JEr); Falls of Rough (KC); Lucas (KOS); Somerset (JEL); and Pine Mountain (MD); and two birds in Rowan County, May 9 and one in Harlan County on the same date (FB and MD, respectively). One to two Red-shouldered Hawks were reported at seven locations; they were "unbelievably scarce" at Danville (FL). No concentrations of Broad-winged Hawks reported; a flock of six at Hamlin, April 22, was the highest number (JEr); one to two at five other locations (m.ob.); earliest arrival was two birds at Glasgow, April 4 (RS). Departing Rough-legged Hawks were later than usual: Kenton County, March 16 (EG); Hickman County, April 16 (JEr); and Harlan County, April 18 (MD). An immature Golden Eagle near Cave Run Lake, March 10, was unexpected and an interesting record (AS and Louis Kornman). The majority of wintering Bald Eagles leave in March, but an adult at Cave Run Lake, March 10 was noteworthy (AS, LK); four, on the same date, were observed at Kentucky Lake, near Hamlin, and three there on March 13 (JEr). A few single Ospreys were reported, with the earliest on April 3 at Somerset (JEL); another at Cave Run Fish Hatchery, April 4 (FB); one lingered at Falls of Rough until May 13 (KC); and one in Marshall County, May 15 (RE).

*Galliformes* — Interesting sightings of the Turkey were received: three at BWMA, May 12 (JEL) and singles at Pine Mountain, April 26 and May 9 (MD). One to two Ruffed Grouse were noted in Harlan and Rowan Counties, May 9 (FB, MD). Sandhill Cranes were seen migrating over Bernheim Forest on March 4: a flock of eight and another of 10 birds, east of the Forest (*vide* BM); at Glasgow, a flock of 30 and another of 12 on March 7 (RS); and six birds flying northwest of Shelbyville, March 11 (FK), were all some of our earlier records. Two records of the Purple Gallinule were noteworthy: one bird at Goose Pond, April 12 (JH and Mr. and Mrs. N. Travis); and one at Oswley Fork Reservoir, May 9 (GR et al). "Hundreds" of American Coots were seen at Kentucky Lake, March 27 (JEr).

*Shorebirds* — Most species of shorebirds arrived later than usual and the drought in March resulted in few if any mud flats. However, 15 species were recorded: Killdeer, Semipalmated Plover, American Woodcock, Common Snipe, Spotted Sandpiper, Solitary Sandpiper, Greater and Lesser Yellowlegs, Pectoral, White-rumped, Baird's and Least Sandpipers, Dunlin, Short-billed Dowitcher and Semipalmated Sandpiper. American Woodcock were seen or heard between March 7 to March 17 in Barren, Calloway and Woodford Counties (RS, JEr, DC, respectively). The 11 Greater Yellowlegs at Minor Clark Fish Hatchery at Farmers, April 4, was exceptional since there are few records for Rowan County; one at the Frankfort Fish Hatchery, April 7 (DC); and four at Smith Pond, Oldham County, April 5 (FS, AIS). Lesser Yellowlegs arrived at Hamlin, March 29 (JEr) and were seen at the Frankfort Fish Hatchery, April 7 (DC). Pectoral Sandpipers were first observed in west Fayette County, March 17 (DC); 29 at Hamlin, March 19 and 45 on March 20 (JEr); 12 at Simpsonville, March

21 (JEL); Hardin (no number given, March 21 (RE); 17 at Crescent Hill Reservoir, Louisville, March 27 (LR); and 15 at Smith Pond, Oldham County, April 5 (FS, ALS). Probably the best shorebird was the White-rumped Sandpiper: five at BWMA, May 11 (JEL et al); one at Simpsonville, May 15 (JEL) and five at the Frankfort Fish Hatchery, May 27 (AB). The species was also reported on the KOS spring field trip, April 25 in Barren and Warren Counties. A Baird's Sandpiper at Crescent Hill Reservoir, May 15 was an interesting find (AB). A few Dunlin were reported from April 15 to May 11: one at Hays Kennedy Park, Louisville (AB); 38 in Marshall County (AB); and three at BWMA (JEL et al). A single Short-billed Dowitcher was sighted at BWMA, May 11 (JEL et al).

*Gulls and Terns* — A Herring Gull at Fishing Creek, Pulaski County, May 20, was a fairly late straggler (JEL). Three Ring-billed Gulls were still present at Hamlin, May 21 (JEr). There was one record of a Laughing Gull at the Falls of the Ohio, May 9, an accidental here (LR). An adult Franklin's Gull at Kentucky Dam, May 6, a rare transient in the state, was photographed by Brainard Palmer-Ball, Jr. (AB). Small numbers of Bonaparte's Gulls were recorded from Calloway County to Pulaski County from March 29 to April 21 (m.o.b.); a total of 12 was considered an "unprecedented number" for the Danville area (FL). An early state record for the Forster's Tern was established at the Crescent Hill Reservoir, April 10 (LR). Caspian Terns passed through in normal numbers in early May. Two Least Terns appeared at Kentucky Lake, April 21 and May 4 (JEr). Some Black Terns were reported: seven at BWMA near Dam 53, May 11 (JEL) and 30+ at Louisville, May 15 (JEL); and the one at Hickman Sewage Plant, Jessamine County, May 16 was an interesting record (DC).

*Cuckoos through Hummingbirds* — Single Black-billed Cuckoos were fairly widespread from April 21 to May 30 and reported from six locations: Hamlin, Verona, Hardin, Danville, Eubank and Pine Mountain. The eastern most record of the Chuck-will's widow came from Pulaski County, where several were heard from April 28 through the season in various locations (JEL). Whip-poor-wills were first heard in western Kentucky (Hamlin) on March 31; one flew into a downtown Louisville fifth floor apartment window, April 12 (AB); other areas recording the species included Falls of Rough (KC); Barren River State Park (KOS), Harlan County (MD) and Rowan County (FB). Some Nighthawks were late in migrating; a flock of 15 was seen milling about just above the treetops in northeast Jefferson County, May 21 (FS, ALS). A single Chimney Swift was unusually early and established an early state record at Murray, March 17 (CP). Three Ruby-throated Hummingbirds had found the "syrup feeders" at Falls of Rough on April 18 (KC).

*Flycatchers through Blue Jays* — The rare Yellow-bellied Flycatcher was recorded on two occasions at Danville: two birds, May 22 and one May 29 (FL); also one at Pine Mountain, April 28 (MD). A Willow Flycatcher was heard and seen at Fort Wright, May 9 (EG) and two were at Creason Park, Louisville, May 16 (JEL). It was also of interest that an Alder Flycatcher was observed singing at Fort Wright, May 3 (EG). The only Olive-sided Flycatchers reported were from Danville and Hamlin (FL, JEr). Tree Swallows made their appearance in mid-March in Marshall County (RE), and a flock of 38 was seen over Kentucky Lake on March 30 (JEr) and were still present in the Louisville area, May 17 (JK) and were found nesting in a snag at Campbell County Park Lake on the latter date

(EG). It was thought that Barn Swallows were fewer in numbers at Madisonville (JH). Swallow migration was still noted at Fishing Creek, Pulaski County on May 20, where 100 birds were seen, with 50% Barn Swallows, 40% Bank, a few Rough-winged, Tree and Cliff (JEl). Another swallow movement was observed in Marshall County, May 8, with most of the birds identified as Cliff Swallows (RE). Purple Martins arrived late this season; they were considered scarce in northern Kentucky at Fort Wright (EG), but good numbers were found in Rowan County in early May (FB). Blue Jay migration was evident on March 31 when a "constant string" was seen over Kentucky Lake at Hamlin (JEr). An interesting record of note was the sighting of a Northern Raven in mid-March in Harlan County, where the species has had a "gradual increase in numbers . . . during the past three years." (MD).

*Nuthatches through Thrushes* — Red-breasted Nuthatches were not common, but fair numbers were observed in Pulaski County (JEl) and on a number of times at Danville (FL) and last observed at Glasgow, May 8 (RS) and at Pine Mountain, May 9 (MD). House Wrens were late in arriving and numbers were down in the Louisville area (ALS). Bewick's Wrens were recorded at three locations: April 3 to May 10 at Murray, but then disappeared (CP); one singing at Buckley Hills Refuge, April 7 (DC); and a pair at Springfield, where a clutch of six eggs had been laid, but then both birds disappeared (JBa). The Carolina Wren was still scarce, but showed some increase in some locations (m.ob.). Mockingbirds showed some increase in some areas, but remained in low numbers in others. Catbirds were late in arriving; first sighted at Fort Wright, May 9 (EG), but in nearby Boone County a total of 42 was seen on the same date (LMc); numbers were low in the Louisville area (ALS). Migration of American Robins was noted on March 19 when "hundred" were seen at Hamlin (JEr). The Gray-cheeked Thrush arrived unusually early at Hamlin on April 4 and set an early state record (JEr). However, migration for the species did not get underway until May 11 and 12, particularly at BWMA, where it was "the most commonly observed thrush" (JEl, DE, LR); first observed at Glasgow, May 10 (RS). Neither the Swainson's nor the Gray-cheeked Thrushes were sighted on the field trips on April 25 and 26 in Barren and Warren Counties by KOS members, but they began appearing at Clark Park, Louisville on April 27 (BS). The Veery migration was considered "good" at Danville between May 9 and 22 (FL) and in Harlan County (MD). The Eastern Bluebird remained scarce, but in some areas there was a slight increase in the population (m.ob.).

*Gnatcatchers through Vireos* — The Blue-gray Gnatcatcher appeared at Hamlin (JEr) and Hardin (ER) the last week of March and in southeastern Kentucky, April 5 (MD); and was conspicuous in Kenton County, April 4 (EG) and at Greenup County, April 11 (KC). The Yellow-throated Vireo arrived early at Hamlin and tied Kentucky's earliest record of April 8 (JEr). Solitary Vireos may have been scarce as reports were received from only two counties, Marshall (RE) and Harlan (MD).

*Warblers* — The warbler migration was long and drawn out; it started out early and then was delayed in early May due to cold weather; no unusual waves reported. Swainson's Warblers were reported from Hamlin, April 15-May 9 (JEr) and Louisville, May 9, the season's first record for Jefferson County (MS). Orange-crowned Warblers were seen at Hardin,

April 10 (RE), Danville, April 11 (FL), Louisville, April 24 (LR), and at Lake Cumberland, April 25 (JB, PB). Nashville Warblers came in early: April 11 at Danville (FL) — earliest state record; April 15 at Hamlin (JEr); and April 16 at Pulaski County Park (JEL), which tied the previous early record. An exceptional arrival date of the Northern Parula Warbler was March 31, at Kentucky Lake (JEr). A few interesting records of the Black-throated Blue Warbler were received: one at Hardin, April 23 (RE); six at Audubon State Park, Henderson, May 2 (JEr); and 16 on the Harlan County count, May 9, where it is a summer resident (MD). A few Black-throated Green Warblers were earlier than usual: one at Hamlin, March 31 (JEr) and at Fort Wright, April 12 (EG). Although 10 Cerulean Warblers were sighted at Hamlin, April 4 (JEr), the species was considered scarce in Boone County (LMc) and in Jefferson County (ALS), where declines have been noted in recent years. The Chestnut-sided Warbler was first sighted on April 29 on Pine Mountain, Harlan County, but by May 9 some 26 were found in the County (MD et al). Another early arrival was the Pine Warbler in Marshall County, March 2 (RE). Good numbers of Ovenbirds were noted in Rowan and Harlan Counties (FB, MD). Several sightings of the Connecticut Warbler ranged from May 9 to May 21 at Louisville (JEL, BBC) and Danville (FL), with a high of four birds at Creason Park, May 17 (AB). One to two Mourning Warblers were recorded from May 11 to 21 at four widely scattered locations: Paducah (JEL); BWMA (JEL); Louisville (AB, JEL et al); and Danville (FL).

*Blackbirds through Tanagers* — Bobolinks were fairly common in western Kentucky, Louisville, and Danville. An increase in numbers of Northern (Baltimore) Orioles was noted at Danville and Owensboro (FL, JF, respectively), while at Springfield there appeared to be a decrease (JBa). A female Brewer's Blackbird, usually rare here in spring, was observed on a Louisville farm, April 9 (AB). Summer Tanagers showed a decline in Boone County on area spring counts (LMc); numbers were low in the Louisville area this spring. A Scarlet Tanager at Hamlin, April 10 was early (JEr).

*Fringillids* — The Blue Grosbeak arrived at Hamlin on April 12 (JEr) and was widespread (m.ob.). Approximately 30 Evening Grosbeaks fed at a Murray feeding station from March to April 21 (*vide* CP). A male Indigo Bunting was unusually early at a feeder in the Bowling Green area, where it remained from March 17 through March 19 (*vide* HS). Dickcissel were scarce in the Louisville area, but fair numbers were recorded in the following counties: Marshall (RE), McLean (JF), Ballard, McCracken and Hickman (AB). Migration of the Purple Finch was noted at Hamlin on April 10 when 150 were seen (JEr); smaller numbers were reported at various locations (m.ob.). Two Common Redpoll fed at a feeding station in the Louisville area, March 22 (RY *vide* ALS). Pine Siskins were spotty, but in some areas fairly common; 75-100 at Falls of the Rough in early part of the season, numbers diminished in late April, but two birds remained there until May 18 (KC); about 75 at Hamlin, April 4 (JEr) and there were "lots" in Marshall County, April 19 (RE); smaller numbers were found elsewhere in the state. The House Finch continued to spread from eastern Kentucky as far west as Owensboro (JF); a pair in the Hurstbourne area, Louisville, from April 30 to end of period, possibly a breeding pair (JFS); and a nest — first for the state — at Creason Park (AB). A flock of 40+ Vesper Sparrows and 20 Savannah Sparrows, March 28, along

Camp Ground Road, Pulaski County, were in migration as none could be found in the same area two days later (JEl). The Lark Sparrow arrived at Hardin, Marshall County, the week of April 22-30 (RE). A Bachman's Sparrow in the Louisville area on May 15 was noteworthy (AB).

*Contributors* — Alan Barron (AB), Jane and Patricia Bell (JB) (PB), John Barber (JBa), Fred Busroe (FB), Kathryn Clay (KC), Dennis Coskren (DC), Mark Dalton (MD), Jackie Elmore (JEl), Diane Elmore (DE), Roger Eberhardt (RE), Joe Tom Erwin (JEr), Joseph Ford (JF), Ed Groneman (EG), James Hancock (JH), Louis Kornman (LK), John Krull (JK), Frank Krull, Jr. (FK), Frederick Loetscher (FL), Lee McNeely (LMc), Burt L. Monroe, Jr. (BM), Clell Peterson (CP), Lene Rauth (LR), Gary Ritchison (GR), Russell Starr (RS), Herbert E. Shadowen (HS), Bernice Shannon (BS), Frederick W. Stamm (FS), Anne L. Stamm (ALS), Mrs. J. F. Sullivan (JFS), Albert Surmont (AS), Midge Susie (MS), Mrs. Robert Young (RY). *Others*: Beckham Bird Club (BBC), Kentucky Ornithological Society (KOS), Many observers (m.ob.).

The writer wishes to thank again all participants and to solicit their continued help in making these seasonal studies more and more valuable.

— 9101 Spokane Way, Louisville 40222.

## THE 1981 BALD EAGLE SURVEY IN KENTUCKY

ANNE L. STAMM AND JAMES S. DURELL

This report is a compilation of the findings of the 1981 statewide cooperative Bald Eagle Mid-Winter Survey. The census was coordinated in the state, as it was last year, by James S. Durell, assistant director of the Kentucky Division of Game Management. The project is a part of a nationwide effort sponsored by the National Wildlife Federation. Survey participants included biologists from both the Federal and State Fish and Wildlife Agencies, TVA personnel, U. S. Corps of Engineers, National Park Service, and members of the Kentucky Ornithological Society.

The survey covered all major bodies of water from the Mississippi and Ohio Rivers across the state to the lakes in Carter and Pike Counties. Thirty-seven parties worked on the target dates, January 9 and 10, while five others checked assigned areas on January 5, 8, 11, 12 and 19. The weather on the target dates was cold but clear. Small lakes, streams and pools were frozen, causing eagles to seek open water. The Mississippi River water level was low as was the Big South Fork of the Cumberland River. The large rivers were open, but there was some flowing ice in the northern part of the Ohio. The ground, in most sections, especially in central and eastern Kentucky, was snow-covered; some secondary roads were closed due to icy conditions. The temperature was mainly below 25 degrees.

In most censused areas some prey was available, but in a few places it was limited. Crippled geese were noted at the Ballard Waterfowl Management Area, and eagles were more numerous there than elsewhere. Eagles shifted about some during the winter period as some had been seen in areas where they were absent on the census dates. This may have been a result of frozen sloughs and small lakes.

Bald Eagles arrived earlier than in most recent years. The species was first reported along the Cumberland River in Whitley and McCreary

Counties, September 13 and at Shippingport Island, Jefferson County, September 26. The next big statewide movement came in early November, and by the end of the month as many as 18 were recorded at Dale Hollow Lake. As a result of the early arrivals, a good mid-winter count was anticipated. The census revealed the largest number of Bald Eagles of any count: 53 adults and 52 immatures. In addition, eight Golden Eagles were sighted: an adult in Fulton County (Sumara); four adults in Ballard County (Young); and single immatures in the following counties: Ballard (Anderson); Lewis (Larson); and Rowan (Kornman et al). Although Golden Eagles were fewer in number than in 1980, they were more widespread.

Although some observers failed to list the other hawks sighted, eight species were reported: Sharp-shinned, 1; Cooper's Hawk, 1; Red-tailed Hawk, 41; Red-shouldered Hawk, 4; Rough-legged Hawk, 11; Marsh Hawk, 3; and American Kestrel, 40.

It is encouraging and interesting that the recent impoundments in central and eastern Kentucky have served as lures to the wintering Bald Eagles, and while numbers have not equaled those of western Kentucky each year seems to bring additional birds.

Below is a table indicating the areas covered and also where the eagles were found. If more than one party covered or censused an area any apparent duplicate sightings were carefully screened and eliminated.

These surveys, although not taken on the same day, provide some insight into the wintering population of eagles we have here in Kentucky. However, it seems to the writers that until we can devise some way to count eagles on a single given day, the number of eagles must be a debatable figure. Also, it is unfortunate that in early January the weather conditions often prevent censusing areas, as was the case in two instances this year.

The following is a listing of persons who participated in the 1981 survey. Group leaders and individuals responsible for covering certain areas are in italics. They are: 1) *Wendell Crews; Kenneth Leggett; Mrs. C. K. Sumara, Mrs. James Weatherly*; 2) *Tom Young; Mike Henshaw*; 3) *Vernon Anderson; John Collins*; 4) *Rick Lowe; Vernon Anderson; Melinda Scholl*; 5) *Ben Burnley; Don Boarman, Del Hughey*; 6) *R. M. Morton; A. L. Powell*; 7) *L. D. Smith, Lene Rauth, Katie Fulkerson, Nancy Scheldorf*; 8) *Anne L. Stamm, F. W. Stamm*; 9) *James Pasikowski, Susan Pasikowski; James S. Durell, Tim Williams; Lee McNeely*; 10) *Edwin Larson, Gerald Talsky; Ronald Lovins*; 11) *Kathryn Clay, Kay Mudd, Doris Garst; S. P. Troublefield; Wayne Mason*; 12) *Robert Kessler*; 13) *Cecil Gorley*; 14) *Mr. Mattingly, Mr. Stone*; 15) *Lewis Kornman, Albert Surmont, Fred Busroe, Harry Pawelczik; Dr. and Mrs. Wendell Kingsolver*; 16) *Dr. William Greene, Lois Greene; James H. McCormick*; 17) *Dennis Coskren, Robert Morris; Timothy M. Clearly; Wallace Halcomb; Richard Hines*; 18) *Chester Stephens*; 19) *William Carroll*; 20) *Dr. Pierre Allaire*; 21) *Kerry W. Prather*; 22) *A. L. Whitt, Jr., Gary Ritchison; Thomas E. Peek*; 23) *Leon D. Liscomb*; 24) *David Cable, S. Allen*; 25) *Jack H. Collier*.

The writers wish to thank the many people who participated in the survey and enlist their cooperation for the 1982 survey — Kentucky Ornithological Society, 9101 Spokane Way, Louisville, Kentucky 40222. Kentucky Department of Fish & Wildlife, Frankfort, Kentucky 40601.

## BALD EAGLES SIGHTED JANUARY 5-12, 1981 IN KENTUCKY

Organization	Census Routes	Adults	Imm.	Total
1) fws	Flight from Tennessee line along Mississippi River for Kentucky Counties			
kos	Flight from state line to Bardwell			
kos	Bend of the River, Levee Road, Island #8, by car	16	6	22
2) fw	Ballard Waterfowl Management Area			
fw	West Kentucky Wildlife Area on Ohio River	14	15	29
3) fw	Bayou de Chien, Oblen and Mayfield Creek Bottoms			
fw	Ohio River from BWMA to Shawnee River	1	3	4
4) tva	Land Between the Lakes, Barkley & Kentucky Lakes;			
coe	Lake Barkley & Kentucky Lake on mid-winter			
fw	waterfowl inventory	7	12	19
5) fw	Owensboro to Tradewater River; Henderson to Tradewater River	1	2	3
6) fw	Yellowbank Wildlife Area along the Ohio River			
kos	Owensboro north along Ohio almost to Lewisport			
7) kos	Leavenworth, Indiana to Rome, Ind. to Kentucky side of Ohio River			
8) kos	Louisville along the Ohio River down to West Point, to Doe Lake and west of Brandenburg		1	1
9) fw	Louisville to Westport, Oldham County, along the Ohio River; Westport to Markland Dam; Ohio River, west of Cincinnati to Markland Dam			
10) kos	Ohio River upstream from Covington to Portsmouth, Ohio; Meldohl Dam, Bracken County			
fw	Rough River Dam area; Barren River Reservoir; Nolin Reservoir			
11) kos	Green and Herrington Lakes	2	1	3
fw	Marion-Casey County Line			
12) fw	Dale Hollow Lake, by boat	5	6	11
13) coe	Minor E. Clark Fish Hatchery, Cave Run Lake, Rowan County		1	1
14) fw	Grayson Lake, Elliott and Carter Counties			
15) kos	Wolf Creek Dam (below dam) and upstream to Pulaski County	4	1	5
16) kos				
17) fws				
coe				
fw				
18) fw	Fishing Creek, east Wayne County to Burnside (by boat)	1		1
19) nps	Yahoo Falls, Big South Fork of Cumberland River, McCreary County			
20) kos	Buckhorn Lake			
21) fw	Dewey and Fishtrap Lakes			
22) kos	Laurel Lake			
coe		2	4	6
23) nps	Mammoth Cave National Park, Houchins Ferry Road			
24) coe	Defeated Creek, Carr Fork, Knott County			
25) nps	Cumberland Gap National Park — bluff area			
Total		53	52	105

Eight Golden Eagles were seen: five adults and three immatures.

fw Kentucky Department of Fish & Wildlife Resources  
 fws U.S. Fish and Wildlife Service  
 coe Corps of Engineers  
 nps National Park Service  
 kos Kentucky Ornithological Society  
 tva Tennessee Valley Authority

## THE EFFECT OF SCREECH OWL PRESENCE UPON RELATIVE HUMIDITY INSIDE A NEST BOX

WILLIAM C. MCCOMB AND ROBERT E. NOBLE

Nest boxes are widely used as replacements for natural cavities but little is known about the microenvironments of nest boxes or natural cavities. Kendeigh (1961) and Havera (1979) described the effect of endotherm presence upon nest box temperatures, but we could find no studies which described the effects of cavity occupants upon internal relative humidity (RH). Relative humidity affects the stability of body temperatures of soft-skinned ectotherms such as 1- to 3-day old altricial birds (Hall and Root 1930, Dunn 1976). Relative humidity within the nest could affect nestling survival. We measured relative humidity in a nest box occupied by an adult Screech Owl (*Otus asio*) and three eggs, and in an adjacent unoccupied nest box.

Thirty nest boxes (30 x 30 x 60 cm) constructed of 2.5-cm thick rough-sawn baldcypress (*Taxodium distichum*) and with 13-cm diameter entrances were placed in an upland hardwood (*Pinus-Quercus-Liquidambar*) stand in Jefferson County, Mississippi, 12 February 1977. All boxes contained 5-10 cm of pine shavings. Boxes were erected at a height of about 6.1 m, in a grid pattern (32 x 30 m), with all entrances facing northeast. Screech owls began using nest boxes within two weeks after they were erected.

A Screech Owl with three eggs was found in a nest box in a flowering dogwood (*Cornus florida*) on 9 May 1977. The owl had been in the box for at least two hours before data collection began. Relative humidity was measured 15 cm inside and 15 cm outside the entrance hole of this box as well as at an unoccupied box in a loblolly pine (*Pinus taeda*) 30 m away at 1530 CDT and 1800 CDT on 10 May 1977. Temperature was measured inside and outside both boxes at 1800 CDT. Internal temperature and RH readings were taken perpendicular to the plane of entrance and 35 cm above the surface of the shavings. Relative humidity was measured to the nearest one percent with a Beckman hygrometer. Taylor maximum-minimum thermometers were placed in both boxes at 1530 CDT to measure temperature to the nearest 0.1°C.

Relative humidity in the occupied nest box was 60 percent at 1530 CDT, but RH in the unoccupied box was 45 percent at that time. Ambient RH was 42 and 45 percent, respectively.

Relative humidity at 1800 CDT was 54 percent inside the unoccupied nest box, but 63 percent inside the occupied nest box. Ambient relative humidity was 51 and 52 percent, respectively. Temperature inside the occupied and unoccupied nest box was 20.2°C. Ambient temperature was 20.7 and 21.8°C, respectively.

Respiratory release of water vapor apparently raised the internal RH of a 56,000 cm<sup>3</sup> nest box when a Screech Owl was present. There were no feces, prey remains or other obvious sources of moisture in either box. Warm, moist expired air combined with convectional and radiative heat lost through the integument should raise and/or stabilize the internal cavity temperature. At 20-21°C the effect of metabolic heat upon the temperature in the center of a box of this size was negligible. Havera (1979) reported that metabolic heat release increased nest temperatures as ambient temperature decreased. High relative humidity with warm



temperature (20-21°C) would help stabilize the microenvironment of the nest resulting in less stress on its occupants than if the relative humidity was low (Hall and Root 1930). We hope that these results will stimulate more intensive research to quantify the effects of water relationships within cavity microenvironments. Such information could result in design of artificial cavities with an optimal microenvironment for its intended occupants.

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### FIELD NOTES

#### FIRST HOUSE FINCH NEST IN KENTUCKY

At Joe Creason Park in Louisville on April 7, 1981 while showing Brainard Palmer-Ball, Jr., some House Finches (*Carpodacus mexicanus*), I had been watching since March 12, we saw a female fly into the top of a Blue Spruce (*Picea pungens*). Upon closer inspection we found the well hidden nest approximately 12 feet high on some branchlets. On April 11, Brainard, using a pole-mirror, counted five eggs. Thereafter I observed the nest almost daily and on May 1 saw that at least two young were being fed by both parents. Subsequent visits revealed only two young had fledged from the nest.

This first reported nesting in Kentucky is expected as a prelude to others of this expanding species. — Alan Barron, 201 York, Apt. 509, Louisville 40203.

### NEWS AND VIEWS

#### SCREECH OWL COLOR PHASE STUDY

Bob Brown is currently gathering data for a study of grey and red Screech Owl color phases in Kentucky. If you have field observations, banding records, etc., of Screech Owls in Kentucky (including color phase) please send them to Mr. Brown at the Department of Biology, University of Louisville, Louisville, Ky. 40292.

#### K.O.S. FALL MEETING

The fall meeting of the K.O.S. will be held at Kenlake State Park, October 2-4. This is an interesting birding area. We hope you will attend.